

### **REMARKS**

Entry of the above-noted amendments, reconsideration of the application, and allowance of all claims pending are respectfully requested. By this amendment, claims 1, 8, 15, 20, and 29 are amended. These amendments to the claims constitute a bona fide attempt by Applicant to advance prosecution of the Application and obtain allowance of the pending claims, and are in no way meant to acquiesce to the substance of the rejections. It is believed that the amendments made herein place the entire Application in condition for allowance and/or better form for appeal. These amendments were not made earlier because the claims as previously submitted were believed to be in condition for allowance. Applicant submits no new search is required since the technical concept added to all the independent claims has already been recited in detail in the dependent claim 4 which has already been examined. Support for the amendments can be found throughout the specification, figures, and claims (e.g., claim 4) and thus, no new matter has been added. Claims 1-9, 12-15 and 18-29 are pending.

#### **Claim Objections**

Claim 29 is objected to because of informalities. The text highlighted by the Examiner has been amended to recite “such that” in place of “wherein” as well as make “arrangement” plural.

Withdrawal of the objection to claim 29 is therefore respectfully requested.

#### **Claim Rejections - 35 U.S.C. § 102:**

In the Final Office Action mailed May 26, 2006, the Examiner rejected claims 1, 8, 20, 26-27, and 29 under 35 U.S.C. §102(b) as being anticipated by Fujii et al. (USP 4,982,096). This rejection is respectfully, but most strenuously, traversed.

It is well-settled that there is no anticipation unless (1) all the same elements are (2) found in exactly the same situation and (3) are united in the same way to (4) perform the identical function. Since the Office Action’s citations to the applied reference is missing at least one element of each of Applicant’s independent claims, Applicant respectfully submits that the claimed invention is not anticipated by the Office Action’s citations to the applied reference, as further discussed below.

Applicant respectfully submit that the Office Action’s citations to the applied reference, with or without modification or combination, assuming, *arguendo*, that the modification or

combination of the Office Action's citations to the applied reference is proper, do not teach or suggest one or more elements of the claimed invention, as further discussed below.

For explanatory purposes, Applicant discusses herein one or more differences between the Office Action's citations to the applied reference and the claimed invention with reference to one or more parts of the applied reference. This discussion, however, is in no way meant to acquiesce in any characterization that one or more parts of the Office Action's citations to the applied reference correspond to the claimed invention.

Applicant respectfully submits that the Office Action's citations to the applied reference do not teach or suggest one or more elements of the claimed invention. A careful reading of the Office Action's citations to the applied reference fails to set forth a sustainable basis that the reference teaches or suggests, for example, an optical mask arranged and extended in major part along a third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array without encroachment upon any of the first plane or the second plane, the optical mask configured to reduce optical transference between a scintillator and a neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicant's independent claim 1.

As stated in Applicant's Response filed 8/26/2005:

Fujii et al. teaches "separators" that are "located on both sides" of a given scintillator. Fujii et al., col. 3, ll. 11-13. These "separators" are effectively collimators or reflectors that are positioned between adjacent scintillators, as best shown in Figs. 4-5. The separators, which are referenced as numeral 104 and 104A, each extend vertically between adjacent scintillators and, in the embodiment of Fig. 5, extend upwardly past the x-ray reception surface of the scintillators 102 toward the source of x-rays 101. As shown in both figures, the separators are arranged parallel to the path of x-rays and, as such, are not arranged in a plane that is parallel to the planes of the scintillators and the photodiodes, as presently claimed.

In addition, Fujii discloses (column 7, lines 17-32; FIG. 9):

FIG. 9, with reference to U.S. Pat. No. 4,429,227, discloses thin sheet separators 150, which function as a collimator for reducing the quantity of incident radiation scattering beams and also as separators for preventing optical linkage between the adjacent channels. These separators are made of tungsten or a high-density material and are mounted in such a manner as to keep a predetermined positional relationship with the scintillation blocks 151. The scintillation blocks 151 face the light receptive surface 155 of photo diodes 153 that are on a substrate 154 through the employment of optical grease 152. In this conventional example, the thin sheet 150 must have a complicated shape and optical leakage exists between the adjacent channels through the gaps between the thin sheets 150 and the light reception surfaces 155.

The separators 150 at least in major part extend orthogonally relative to respective major orientations of the scintillation blocks 151 and the photo diodes 153. Simply missing from the Office Action's citation to Fujii is any mention of an optical mask arranged and extended in major part along a third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array without encroachment upon any of the first plane or the second plane, the optical mask configured to reduce optical transference between a scintillator and a neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicant's independent claim 1.

So, the Office Action's citation to Fujii fails to satisfy at least one of the limitations recited in Applicant's independent claim 1.

For the reasons presented above with reference to claim 1, claims 1, 8, and 20 are believed neither anticipated nor obvious over the art of record. The corresponding dependent claims are believed allowable for the same reasons as independent claims 1, 8, and 20, as well as for their own additional characterizations.

Withdrawal of the § 102 rejections is therefore respectfully requested.

Claim Rejections - 35 U.S.C. § 103:

The Examiner next rejected claims 1-5, 7-9, 12-14, 20-22, 24-27 and 29 under 35 U.S.C. §103(a) as being unpatentable over Possin et al (USP 5,430,298) in view of Fujii et al. Claims 6 and 23 are rejected under 35 U.S.C. §103(a) as being unpatentable over Possin et al. and Fujii et al. as applied to claims 1 and 20 above, and further in view of Mattson et al. (USP 6,553,092). Claims 15, 19 and 28 are rejected under 35 U.S.C. §103(a) as being unpatentable over Mattson et al. in view of Possin et al. and Fujii et al. Claim 18 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mattson et al., Possin et al., and Fujii et al., as applied to claim 15 above, and further in view of Rushbrooke et al. (USP 5,682,411). These rejections are respectfully, but most strenuously, traversed. These rejections are respectfully, but most strenuously, traversed.

For explanatory purposes, Applicant discusses herein one or more differences between the Examiner's citations to the applied references and the claimed invention with reference to one or more parts of the applied references. This discussion, however, is in no way meant to acquiesce in any characterization that one or more parts of the Examiner's citations to the applied references correspond to the claimed invention.

As stated in MPEP §2142 “Legal Concept of Prima Facie Obviousness”:

To reach a proper determination under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. Knowledge of applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences," conduct the search and evaluate the "subject matter as a whole" of the invention. The tendency to resort to "hindsight" based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.

#### ESTABLISHING A *PRIMA FACIE* CASE OF OBVIOUSNESS

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985)...

...

...With regard to rejections under 35 U.S.C. 103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not.

Applicant respectfully submits that the Examiner's citations to the applied references do not teach or suggest one or more elements of the claimed invention. A careful reading of the Examiner's citations to the applied references fails to set forth a sustainable basis that the references teach or suggest, for example, an optical mask arranged and extended in major part along a third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array without encroachment upon any of the first plane or

the second plane, the optical mask configured to reduce optical transference between a scintillator and a neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicant's independent claim 1.

The Office Action's citations to Fujii have been discussed above, noting that the separators 150 at least in major part extend orthogonally relative to respective major orientations of the scintillation blocks 151 and the photo diodes 153. Simply missing from the Office Action's citation to Fujii is any mention of an optical mask arranged and extended in major part along a third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array without encroachment upon any of the first plane or the second plane, the optical mask configured to reduce optical transference between a scintillator and a neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicant's independent claim 1.

So, the Office Action's citation to Fujii fails to satisfy at least one of the limitations recited in Applicant's independent claim 1. A discussion of the Examiner's combination of Fujii is presented herein.

Regarding Possin, as stated in Applicant's Response filed 12/20/2005, Possin discloses (column 5, line 66, to column 6, line 2; column 6, lines 53-58; column 6, line 64 to column 7, line 20; FIG. 1) boundary light barrier 180:

In accordance with this invention, pixel boundary light barrier 180 is disposed on first surface 131 of photosensor block 130 so as to overlie the region of photosensor array 120 between respective fully photoactive regions of adjoining pixels 125.

...

Pixel boundary light barrier 180 is disposed in optical coupling layer, that is, it is disposed on first surface 131 of photosensor array 120 and is otherwise surrounded by optical coupling layer 170, which typically comprises a light transmissive material such as a thermally stable polymer, an epoxy, or the like....

Optical coupling layer 170 and pixel boundary light barrier 180 are typically formed in the following manner. Light barrier is first formed, for example by spinning the polyimide/dye mixture on over first surface 131; after curing, the opaque polyimide/dye material is patterned using photolithographic processes (that can provide high resolution (e.g., <5 .mu.m) resolution) to provide the desired dimensions of segments 182 (FIG. 2) so as to have the light barrier disposed on first surface 131 overlying the areas between the fully photoactive regions of adjoining photodiodes and over switching elements.

In one embodiment of the invention, a channel 184 is disposed in at least one of the segments 182 surrounding each pixel 125 so as to allow fluid communication between the first surface areas overlying the fully photoactive

regions of adjoining pixels 125. Optical coupling layer 170 is then deposited, such as UV light curable epoxy. The uncured epoxy is in a fluid state and thus extends over pixels 125 and around light barrier 180; channels 184 assist in the equal distribution of the liquid polyimide between pixels 125 and thus the formation of an optical coupling layer that covers light barrier 180 and is substantially planar. After the optically transparent epoxy is cured using UV illumination, scintillator 110 is formed thereover.

The pixel boundary light barrier 180 is disposed on first surface 131 of photosensor array 120. The pixel boundary light barrier 180 fails to disclose the pixel boundary light barrier 180 located closer to the scintillator 110 than the photosensor array 120. Simply missing from the Office Action's citation to Possin is any mention of an optical mask arranged and extended in major part along a third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array without encroachment upon any of the first plane or the second plane, the optical mask configured to reduce optical transference between a scintillator and a neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicant's independent claim 1.

So, the Office Action's citation to Possin fails to satisfy at least one of the limitations recited in Applicant's independent claim 1. In part on this point, the Office Action concedes (page 4, enumerated paragraph 7): "Possin et al. fails to disclose an optical mask located closer to a scintillator array than a photodiode array." A discussion of the Examiner's combination of Possin is presented herein. The citations to the remaining applied references are not presented as overcoming the above-noted deficiencies of Fujii and Possin.

The Examiner's citations to Fujii and Possin and the remaining applied references all fail to meet at least one of Applicant's claimed features. For example, there is no teaching or suggestion in the Examiner's citations to Fujii, Possin, and the remaining applied references of an optical mask arranged and extended in major part along a third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array without encroachment upon any of the first plane or the second plane, the optical mask configured to reduce optical transference between a scintillator and a neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicant's independent claim 1.

The Examiner has failed to establish *prima facie* obviousness of Applicant's independent claim 1 through combination of the Examiner's citations to Fujii and Possin. The proposed combination of the Examiner's citations to Fujii and Possin lacks the necessary suggestion or motivation. As stated in MPEP §2143.01 "Suggestion or Motivation To Modify the References":

### **I. < THE PRIOR ART MUST SUGGEST THE DESIRABILITY OF THE CLAIMED INVENTION**

"There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

With respect to the proposed combination of the Examiner's citations to Fujii and Possin, Applicant respectfully submits that when undertaking an inquiry into the obviousness of an invention, a determination must be made regarding whether, at the time the invention was made, the invention would have been obvious to one of ordinary skill in the art to which the subject matter of the invention pertains. Applicant strenuously traverses the §103 rejection of the claimed invention on the following exemplary bases:

(1) The justification in the Office Action for combining the citation to Fujii and the citation to Possin does not identify any express teaching, suggestion, or incentive in the art for this combination.

(2) The justification in the Office Action for combining the citation to Fujii and the citation to Possin is nothing more than hindsight reconstruction of the claimed invention, which is impermissible when formulating an obviousness rejection.

First, the Office Action states (enumerated paragraph 7, page 5) as a justification to combine the citation to Fujii and the citation to Possin:

It would have been obvious to one having ordinary skill in the art at the time invention was made to include in the apparatus of Possin et al. the optical mask of Fujii et al., since one would be motivated to make such a modification to reduce cross talk (fig. 9) as implied from Fujii et al.

Referring to FIG. 9 of Fujii and Applicant's current claim language "an optical mask arranged and extended in major part along a third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array without encroachment upon any of the first plane or the second plane, the optical mask configured to reduce optical transference between a scintillator and a neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array" the purported implication by Fujii is inadequate. The purported justification for combining the Office Action's citation to Fujii and the Office Action's citation to Possin conspicuously fails to identify any express teaching, suggestion, or incentive in the art for making the combination. It is well settled that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion that the combination be made. Either the Office Action must identify an express teaching, suggestion, or incentive in the art, or the Office Action must present a convincing line of reasoning as to why one skilled in the art would have found the claimed invention to have been obvious. Since no sustainable express teaching or suggestion in the art has been identified, attention must be turned to the reasoning to determine whether it is convincing regarding whether the claimed invention is obvious.

Second, in this regard, the justification is nothing more than hindsight restatement of the results of the claimed invention.

...include in the apparatus of Possin et al. the optical mask of Fujii et al., ...to reduce cross talk...

This justification is tantamount to stating that "it would be obvious to modify A to have B because it provides A plus B." This line of reasoning cannot be considered "convincing," since it is settled that it is impermissible to simply engage in hindsight reconstruction of the claimed invention, using the claimed invention as a template and selecting elements to fill the gaps.

Further, since this justification is hindsight reconstruction of the results of the claimed invention, the Office Action's reasoning is actually using the claimed invention itself as a basis to combine the citation to Fujii and the citation to Possin. This violates the settled principle that a motivation to combine references cannot come from the invention itself.

Applicant respectfully submits that the claimed invention would not have been obvious, namely, no express teaching or suggestion in the documents for the combination has been identified, and further, the justification given in the Office Action for combining the citation to



Fujii and the citation to Possin is not convincing since it is nothing more than hindsight reconstruction of the claimed invention using pieces of the documents to fill the gaps.

Also as stated in MPEP §2143.01 "Suggestion or Motivation To Modify the References":

**III. < FACT THAT REFERENCES CAN BE COMBINED OR  
MODIFIED IS NOT SUFFICIENT TO ESTABLISH *PRIMA FACIE*  
OBVIOUSNESS**

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).

Applicant does not concede that the citation to Fujii and the citation to Possin can be combined and, moreover, Applicant traverses that the prior art also suggests the desirability of the proposed combination. The remaining rejections stem from these deficiencies in rejection or exhibit further deficiencies as noted above and as noted in Applicant's Response filed 4/07/2006.

For the reasons presented above with reference to claim 1, claims 1, 8, 15, and 20 are believed neither anticipated nor obvious over the art of record. The corresponding dependent claims are believed allowable for the same reasons as independent claims 1, 8, 15, and 20, as well as for their own additional characterizations.

Withdrawal of the § 103 rejections is therefore respectfully requested.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-9, 12-15 and 18-29.

Applicant hereby authorizes charging of Deposit Account No. 07-0845 for any additional fees associated with entering the aforementioned claims.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

/Robert J. Brill/

Robert J. Brill  
Registration No. 36,760  
Direct Dial 773-832-4070  
rjb@zpspatents.com

Dated: June 21, 2006  
Attorney Docket No.: GEMS8081.201

**P.O. ADDRESS:**  
Ziolkowski Patent Solutions Group, SC  
14135 North Cedarburg Road  
Mequon, WI 53097-1416  
262-376-5170